REMARKS

I. Summary of Office Action

Claims 1-65 are pending in the application.

Claims 1-8, 10-24, 26, 29-36, 38-52, 54, and 57-65 were rejected under 35 U.S.C. § 103(a) as being unpatentable over K. Franklin Evans, The Spherical Harmonics Discrete Ordinate Method for Three-dimensional Atmospheric Radiative Transfer, 55 J Atmos. Sci. 429, 1998 (hereinafter, "Evans") in view of George U.S. Patent No. 6,459,818 (hereinafter, "George").

Claims 9, 25, 37, and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans in view of George in further view of Anderson et al. U.S. Patent No. 5,884,226 (hereinafter, "Anderson").

Claims 27, 28, 55, and 56 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans in view of Mengücedilla et al. U.S. Patent No. 6,721,051 (hereinafter, "Mengücedilla").

II. Summary of Applicants' Reply

Applicants have amended claims 1, 18, 29, 46, 57, 60, and 63 to more particularly define the present invention.

The Examiner's rejections of claims 1-65 are respectfully traversed.

Reconsideration of this application is respectfully requested.

III. The Rejection and Amendments of Independent Claims 1, 18, 29, and 46

Independent claims 1, 18, 29, and 46 were rejected by the Examiner under 35 U.S.C. § 103(a) as being obvious from Evans in view of George. Applicants have amended claims 1, 18, 29, and 46 to more particularly define the present invention. The amendments to the claims are fully supported and justified by the specification and drawings and add no new matter.

Claims 1 and 29 relate to indicating a property of a medium in which a light source is encompassed. Claims 18 and 46 relate to altering an image containing a light source encompassed in a medium.

Evans relates to an algorithm for modeling radiative transfer in inhomogeneous three-dimensional media. At page 2, lines 15-25 of the Office Action, the Examiner states, "Evans teaches a method and system for indicating a property of a medium in which a light source is encompassed" and that "Evans also teaches determining the property of a medium." However, applicants respectfully submit that Evans does not teach a method or system for determining a property of a medium. Furthermore, even if one argues that setting a property through user inputs is the same as determining a property, and that therefore Evans does teach a method for determining a property of a medium, an argument that the Applicant rejects, Evans does not teach a method or system for determining the property of a medium using the Radiative Transfer Equation for Spherical Media. Also contrary to the Examiner's contention, the light source of Evans is not encompassed.

A. Evans Does Not Teach Determining the Property of a Medium Using the Radiative Transfer Equation for Spherical Media

On the second to last line of page 2 of the Office Action, the Examiner stated that "Evans also teaches determining the property of the medium on page 430 ... where it is described that the property of a cloud is determined." Contrary to the Examiner's contention, neither at the referenced location, nor anywhere else, does Evans determine a property of a cloud or any other medium.

Rather, Evans proposes an algorithm used to "model general three-dimensional atmospheric radiative transfer" (Evans, page 440, column 1, lines 8-9). That is, Evans models transfer of radiation through the atmosphere. The abstract of Evans explains that "[a] new algorithm for modeling radiative transfer in inhomogeneous three-dimensional media is described," and that "[t]he model computes accurate radiances or fluxes in either the shortwave or longwave regions." Instead of determining the property of a medium, Evans outputs "[a]ny combination of radiances, fluxes or net flux convergence (heating rate)" (Evans, page 440, column 1, lines 11-12) in order to model radiative transfer. Evans is not concerned with determining the property of a medium, and does not have the capabilities to do so.

More particularly, the clouds in Evans are "simulated clouds" (Evans, Abstract, last line, emphasis added) that are being used as input. Furthermore, the clouds have their parameters controlled by input settings. Evans states on line 20 of page 431 that "[t]he medium properties

(extinction, single-scattering albedo, Legendre series of the phase function, and temperature) may be specified at every grid point of the 'property grid'" (emphasis added). Moreover, the property grid, which is describing the simulated clouds, is input into Evans. This is stated in Evans at page 442, column 1, lines 53-56 when Evans explains that "[t]he input properties (extinction, single-scattering albedo, phase function, and temperature) are trilinearly interpolated from the input property grid."

Therefore, the properties of the clouds and the medium of Evans are simulated and directly controlled by user input. This is in direct contrast to "determin[ing] the property of the medium using the Radiative Transfer Equation for Spherical Media," as recited in claims 1 and 29. Accordingly, the Examiner's rejection of those claims is improper.

B. The light source of Evans is not encompassed

The light source in Evans is located outside the medium and the specific example light source used in Evans is the sun. Following from this, the light rays of Evans are incident to the medium as opposed to emanating from a source "encompassed" in the medium. For example, Evans states that "the source of radiation may be collimated solar" (Evans, page 430, column 1, line 37, emphasis added). The light source in the claimed invention is not collimated solar, and, in fact, is neither collimated nor solar.

Solar light is light that relates to, or is derived from, the sun. Evans refers to its light source with comments such as "the incident solar beam" (page 433, column 2, line 25), "the high sun case" (page 433, column 2, line 32), and "the sunlight" (page 438, column 2, line 2). The encompassed light source of the claimed invention, in contrast, "might be a street lamp" (specification, page 6, lines 18-19).

Collimated light is light whose rays are parallel. Collimated light can be described as light that is coming from a source that is an infinite distance away. Clearly then, the light of a light source encompassed in a medium, as in claims 1, 18, 29, and 46, is not collimated light.

The light source being encompassed in the medium is a requirement of currently amended claims 1, 18, 29, and 46. For example, currently amended claim 1 recites that the "light source" is "encompassed in the medium." In contrast, the light source in Evans is specifically described as "collimated solar," which, as discussed above, is clearly not an encompassed light source.

Accordingly, applicants respectfully submit that claims 1, 18, 29, and 46 are allowable over Evans in view of George for at least the aforementioned reasons. Therefore, applicants respectfully request that the Examiner withdraw the rejection of claims 1, 18, 29, and 46.

IV. The Rejection of Dependent Claims 2-17, 19-28, 30-45, and 47-56

Applicants respectfully submit that claims 2-17, 19-28, 30-45, and 47-56, each of which depend from one of claims 1, 18, 29, or 46, are allowable for at least the same reasons that independent claims 1, 18, 29, and 46, are patentable as set forth above. Therefore, applicants respectfully request that the Examiner withdraw the rejection of claims 2-17, 19-28, 30-45, and 47-56.

V. The Rejection and Amendments of Independent Claims 57, 60, and 63

Independent claims 57, 60, and 63 were rejected by the Examiner under 35 U.S.C. § 103(a) as being obvious from Evans in view of George. Applicants have amended these claims to more particularly define the present invention.

Claims 57, 60, and 63 each recite a "method of monitoring weather conditions in an area." Each of claims 57, 60, and 63 has been amended to include that the light source is "encompassed in the area." In view of the preceding discussion regarding why Evans does not teach an encompassed light source, as included in the amended claims, and instead uses "collimated solar" light, applicants respectfully submit that claims 57, 60, and 63 are allowable and ask that the Examiner withdraw the objections to these claims.

VI. The Rejection of Dependent Claims 58, 59, 61, 62, 64, and 65

Applicants respectfully submit that claims 58, 59, 61, 62, 64, and 65, each of which depend from one of claims 57, 60, or 63 are allowable for at least the same reasons that independent claims 57, 60, and 63, are patentable as set forth above. Therefore, applicants respectfully request that the Examiner withdraw the rejection of claims 58, 59, 61, 62, 64, and 65.

VII. Conclusion

Applicants respectfully submit that, as described above, the cited references do not show or suggest the combination of features recited in the claims. Applicants do not concede that the cited references show any of the elements recited in the claims. However, applicants have provided specific examples of elements in the claims that are clearly not present in the cited prior art.

Applicants strongly emphasize that one reviewing the prosecution history should not interpret any of the examples applicants have described herein in connection with distinguishing over the prior art as limiting to those specific features in isolation. Rather, applicants assert that it is the combination of elements recited in each of the claims, when each claim is interpreted as a whole, which is patentable. Applicants have emphasized certain features in the claims as clearly not present in the cited references, as discussed above. However, applicants do not concede that other features in the claims are found in the prior art. Rather, for the sake of simplicity, applicants are providing examples of why the claims described above are distinguishable over the cited prior art.

Applicants wish to clarify for the record, if necessary, that the claims have been amended to expedite prosecution, and that the amendments to the claims do not constitute acquiescence to any of the Examiner's rejections. Further, applicants reserve the right to pursue the original subject matter recited in the present claims in a continuation application.

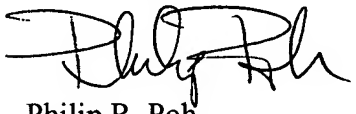
Any narrowing amendments made to the claims in the present Reply are not to be construed as a surrender of any subject matter between the original claims and the present claims; rather, these amendments are merely applicants' best attempt at providing one or more definitions of what the applicants believe to be suitable patent protection. In addition, the present claims provide the intended scope of protection that applicants are seeking for this application. Therefore, no estoppel should be presumed, and applicants' claims are intended to include a scope of protection under the Doctrine of Equivalents.

Further, applicants hereby retract any arguments and/or statements made during prosecution that are rejected by the Examiner during prosecution and/or that are unnecessary to obtain allowance, and only maintain the arguments that persuade the Examiner with respect to the allowability of the patent claims, as one of ordinary skill would understand from a review of the prosecution history. That is, applicants specifically retract statements that one of ordinary

skill would recognize from reading the file history as not necessary, not used and/or rejected by the Examiner in allowing the patent application.

For at least the reasons set forth above, applicants respectfully submit that this application, as amended, is in condition for allowance. Reconsideration and prompt allowance of the application are respectfully requested.

Respectfully submitted,



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